

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Original) A method of coating a hydrophilic polymer on a surface of a medical device, wherein;
 - (a) the medical device has a catechol moiety disposed on the surface of said device; and
 - (b) the hydrophilic polymer comprises a chemical moiety selected from the group consisting of a hydroxyl moiety, a phosphate moiety, a sulfate moiety, a carboxylate moiety, an amide moiety, a guanidino moiety and an amine moiety, wherein;
the method comprises coating the medical device with the hydrophilic polymer to form a chemical bond between the chemical moiety of the hydrophilic polymer and the catechol moiety of the medical device surface.
2. (Original) The method of claim 1 wherein the device is selected from the group consisting of a blood-contacting medical device, a tissue-contacting medical device, a bodily fluid-contacting medical device, an implantable medical device, an extracorporeal medical device, a blood oxygenator, a blood pump, a blood sensor, tubing for carrying blood, an endoprosthesis medical device, a vascular graft, a stent, a pacemaker lead, a heart valve, temporary intravascular medical device, a catheter and a guide wire.
3. (Original) The method of claim 1 wherein at least a portion of the surface forms at least one of a tube, a rod, a membrane, a balloon, a bag and a sheet.
4. (Original) The method of claim 1 wherein the surface comprises at least one of a biocompatible material selected from the group consisting of a metal, a titanium, a titanium alloy, a tin-nickel alloy, a shape memory alloy, an aluminum oxide, a platinum, a platinum alloy, a stainless steel, a MP35N stainless steel, a elgiloy, a stellite, a pyrolytic carbon, a silver carbon, a glassy carbon, a polymer, a polyamide, a polycarbonate, a polyether, a polyester, a polyolefin, a polyethylene, a polypropylene, a polystyrene, a polyurethane, a polyvinylchloride, a

polyvinylpyrrolidone, a silicone elastomer, a fluoropolymer, a polyacrylate, a polyisoprene, a polytetrafluoroethylene, a rubber, a ceramic, a hydroxapatite, a human protein, a human tissue, an animal protein, an animal tissue, a bone, a skin, a tooth, a collagen, a laminin, a elastin, a fibrin, a wood, a cellulose, a compressed carbon and a glass.

5. (Original) The method of claim 1 wherein the hydrophilic polymer is selected from the group consisting of a water-soluble polymer, a water-swelling polymer, a polymer comprising a hydrophilic chemical moiety, a polymer used to reduce friction on a surface, an acrylamide polymer, a methacrylamide polymer, a 2-acrylamido-2-methylpropane sulfonic acid polymer, an acrylic acid polymer, a N-(3-aminopropyl) methacrylamide hydrochloride polymer, a polyvinylpyrrolidone, a polyethylene oxide polymer, a saccharide, a glycan, a hyaluronic acid polymer, a chondroitin sulfate polymer, a poly(alkylene oxalate) polymer, poly(vinyl alcohol) polymer, an ionene polymer, a caprolactone copolymer, a chitin polymer, an agarose polymer, a cellulosic polymer, a poly(maleic anhydride) polymer and a polysaccharide.

6. (Original) The method of claim 1 wherein the hydrophilic polymer is a naturally occurring hydrophilic polymer.

7. (Original) The method of claim 1 wherein the hydrophilic polymer is a chemically synthesized hydrophilic polymer.

8. (Original) The method of claim 1 wherein the hydrophilic polymer has a molecular weight between about 100,000 and about 2,000,000.

9. (Original) The method of claim 1 wherein the surface comprises a primer.

10. (Original) The method of claim 9 wherein the primer comprises the catechol moiety.

11-51. (Cancelled)

52. (Original) A method of coating a hydrophilic polymer on a surface of a medical device, wherein;

(a) the medical device has a chemical moiety selected from the group consisting of a hydroxyl moiety, a phosphate moiety, a sulfate moiety, a carboxylate moiety, an amide moiety, a guanidino moiety and an amine moiety disposed on the surface of said device; and

(b) the hydrophilic polymer comprises a catechol moiety, wherein;

the method comprises coating the medical device with the hydrophilic polymer to form a chemical bond between the catechol moiety of the hydrophilic polymer and the chemical moiety of the medical device surface.

53. (Original) The method of claim 52 wherein the device is selected from the group consisting of a blood-contacting medical device, a tissue-contacting medical device, a bodily fluid-contacting medical device, an implantable medical device, an extracorporeal medical device, a blood oxygenator, a blood pump, a blood sensor, tubing for carrying blood, an endoprosthesis medical device, a vascular graft, a stent, a pacemaker lead, a heart valve, temporary intravascular medical device, a catheter and a guide wire.

54. (Original) The method of claim 52 wherein at least a portion of the surface forms at least one of a tube, a rod, a membrane, a balloon, a bag and a sheet.

55. (Original) The method of claim 52 wherein the surface comprises at least one of a biocompatible material selected from the group consisting of a metal, a titanium, a titanium alloy, a tin-nickel alloy, a shape memory alloy, an aluminum oxide, a platinum, a platinum alloy, a stainless steel, a MP35N stainless steel, a elgiloy, a stellite, a pyrolytic carbon, a silver carbon, a glassy carbon, a polymer, a polyamide, a polycarbonate, a polyether, a polyester, a polyolefin, a polyethylene, a polypropylene, a polystyrene, a polyurethane, a polyvinylchloride, a polyvinylpyrrolidone, a silicone elastomer, a fluoropolymer, a polyacrylate, a polyisoprene, a polytetrafluoroethylene, a rubber, a ceramic, a hydroxapatite, a human protein, a human tissue, an animal protein, an animal tissue, a bone, a skin, a tooth, a collagen, a laminin, a elastin, a fibrin, a wood, a cellulose, a compressed carbon and a glass.

56. (Original) The method of claim 52 wherein the hydrophilic polymer is selected from the group consisting of a water-soluble polymer, a water-swellaable polymer, a polymer comprising a hydrophilic chemical moiety, a polymer used to reduce friction on a surface, an acrylamide

polymer, a methacrylamide polymer, a 2-acrylamido-2-methylpropane sulfonic acid polymer, an acrylic acid polymer, a N-(3-aminopropyl) methacrylamide hydrochloride polymer, a polyvinylpyrrolidone, a polyethylene oxide polymer, a saccharide, a glycan, a hyaluronic acid polymer, a chondroitin sulfate polymer, a poly(alkylene oxalate) polymer, poly(vinyl alcohol) polymer, an ionene polymer, a caprolactone copolymer, a chitin polymer, an agarose polymer, a cellulosic polymer, a poly(maleic anhydride) polymer and a polysaccharide.

57. (Original) The method of claim 52 wherein the hydrophilic polymer is a naturally occurring hydrophilic polymer.

58. (Original) The method of claim 52 wherein the hydrophilic polymer is a chemically synthesized hydrophilic polymer.

59. (Original) The method of claim 52 wherein the hydrophilic polymer has a molecular weight between about 100,000 and about 2,000,000.

60. (Original) The method of claim 52 wherein the surface comprises a primer.

61. (Original) The method of claim 60 wherein the primer comprises the chemical moiety.

62-102. (Cancelled)

103. (Original) A method of coating a biomolecule on a surface of a medical device, wherein;

(a) the medical device has a hydrophilic polymer comprising a catechol moiety disposed on the surface of said device; and

(b) the biomolecule comprises a chemical moiety selected from the group consisting of a hydroxyl moiety, a phosphate moiety, a sulfate moiety, a carboxylate moiety, an amide moiety, a guanidino moiety and an amine moiety, wherein;

the method comprises coating the medical device with the biomolecule to form a chemical bond between the chemical moiety of the biomolecule and the catechol moiety of the hydrophilic polymer.

104. (Original) The method of claim 103 wherein the device is selected from the group consisting of a blood-contacting medical device, a tissue-contacting medical device, a bodily fluid-contacting medical device, an implantable medical device, an extracorporeal medical device, a blood oxygenator, a blood pump, a blood sensor, tubing for carrying blood, an endoprosthesis medical device, a vascular graft, a stent, a pacemaker lead, a heart valve, temporary intravascular medical device, a catheter and a guide wire.

105. (Original) The method of claim 103 wherein at least a portion of the surface forms at least one of a tube, a rod, a membrane, a balloon, a bag and a sheet.

106. (Original) The method of claim 103 wherein the surface comprises at least one of a biocompatible material selected from the group consisting of a metal, a titanium, a titanium alloy, a tin-nickel alloy, a shape memory alloy, an aluminum oxide, a platinum, a platinum alloy, a stainless steel, a MP35N stainless steel, a elgiloy, a stellite, a pyrolytic carbon, a silver carbon, a glassy carbon, a polymer, a polyamide, a polycarbonate, a polyether, a polyester, a polyolefin, a polyethylene, a polypropylene, a polystyrene, a polyurethane, a polyvinylchloride, a polyvinylpyrrolidone, a silicone elastomer, a fluoropolymer, a polyacrylate, a polyisoprene, a polytetrafluoroethylene, a rubber, a ceramic, a hydroxapatite, a human protein, a human tissue, an animal protein, an animal tissue, a bone, a skin, a tooth, a collagen, a laminin, a elastin, a fibrin, a wood, a cellulose, a compressed carbon and a glass.

107. (Original) The method of claim 103 wherein the hydrophilic polymer is selected from the group consisting of a water-soluble polymer, a water-swelling polymer, a polymer comprising a hydrophilic chemical moiety, a polymer used to reduce friction on a surface, an acrylamide polymer, a methacrylamide polymer, a 2-acrylamido-2-methylpropane sulfonic acid polymer, an acrylic acid polymer, a N-(3-aminopropyl) methacrylamide hydrochloride polymer, a polyvinylpyrrolidone, a polyethylene oxide polymer, a saccharide, a glycan, a hyaluronic acid polymer, a chondroitin sulfate polymer, a poly(alkylene oxalate) polymer, poly(vinyl alcohol) polymer, an ionene polymer, a caprolactone copolymer, a chitin polymer, an agarose polymer, a cellulosic polymer, a poly(maleic anhydride) polymer and a polysaccharide.

108. (Original) The method of claim 103 wherein the hydrophilic polymer is a naturally occurring hydrophilic polymer.

109. (Original) The method of claim 103 wherein the hydrophilic polymer is a chemically synthesized hydrophilic polymer.

110. (Original) The method of claim 103 wherein the hydrophilic polymer has a molecular weight between about 100,000 and about 2,000,000.

111. (Original) The method of claim 103 wherein the surface comprises a primer.

112. (Original) The method of claim 103 wherein the biomolecule is selected from the group consisting of an anticoagulant agent, an antithrombotic agent, a clotting agent, a platelet agent, a blood agent, an anti-inflammatory, an antibody, an antigen, an immunoglobulin, a defense agent, an enzyme, a hormone, a growth factor, a neurotransmitter, a cytokine, a regulatory agent, a transport agent, a fibrous agent, a viral agent, a protein, a glycoprotein, a globular protein, a structural protein, a membrane protein, a cell attachment protein, a viral protein, a peptide, a glycopeptide, a structural peptide, a membrane peptide, a cell attachment peptide, a proteoglycan, a toxin, an antibiotic agent, antibacterial agent, antimicrobial agent, a polysaccharide, a carbohydrate, a fatty acid, a catalyst, a drug, a vitamin, a DNA segment, a RNA segment, a nucleic acid, a lectin, a dye and a ligand.

113. (Original) The method of claim 103 wherein the biomolecule is a naturally occurring biomolecule.

114. (Original) The method of claim 103 wherein the biomolecule is a chemically synthesized biomolecule.

115-161. (Cancelled)

162. (Original) A method of coating a biomolecule on a surface of a medical device, wherein;

(a) the medical device has a hydrophilic polymer comprising a chemical moiety selected from the group consisting of a hydroxyl moiety, a phosphate moiety, a sulfate moiety, a carboxylate moiety, an amide moiety, a guanidino moiety and an amine moiety disposed on the surface of said device; and

(b) the biomolecule comprises a catechol moiety, wherein;
the method comprises coating the medical device with the biomolecule to form a chemical bond between the catechol moiety of the biomolecule and the chemical moiety of the hydrophilic polymer.

163. (Original) The method of claim 162 wherein the device is selected from the group consisting of a blood-contacting medical device, a tissue-contacting medical device, a bodily fluid-contacting medical device, an implantable medical device, an extracorporeal medical device, a blood oxygenator, a blood pump, a blood sensor, tubing for carrying blood, an endoprosthesis medical device, a vascular graft, a stent, a pacemaker lead, a heart valve, temporary intravascular medical device, a catheter and a guide wire.

164. (Original) The method of claim 162 wherein at least a portion of the surface forms at least one of a tube, a rod, a membrane, a balloon, a bag and a sheet.

165. (Original) The method of claim 162 wherein the surface comprises at least one of a biocompatible material selected from the group consisting of a metal, a titanium, a titanium alloy, a tin-nickel alloy, a shape memory alloy, an aluminum oxide, a platinum, a platinum alloy, a stainless steel, a MP35N stainless steel, a elgiloy, a stellite, a pyrolytic carbon, a silver carbon, a glassy carbon, a polymer, a polyamide, a polycarbonate, a polyether, a polyester, a polyolefin, a polyethylene, a polypropylene, a polystyrene, a polyurethane, a polyvinylchloride, a polyvinylpyrrolidone, a silicone elastomer, a fluoropolymer, a polyacrylate, a polyisoprene, a polytetrafluoroethylene, a rubber, a ceramic, a hydroxapatite, a human protein, a human tissue, an animal protein, an animal tissue, a bone, a skin, a tooth, a collagen, a laminin, a elastin, a fibrin, a wood, a cellulose, a compressed carbon and a glass.

166. (Original) The method of claim 162 wherein the hydrophilic polymer is selected from the group consisting of a water-soluble polymer, a water-swellaable polymer, a polymer comprising a

hydrophilic chemical moiety, a polymer used to reduce friction on a surface, an acrylamide polymer, a methacrylamide polymer, a 2-acrylamido-2-methylpropane sulfonic acid polymer, an acrylic acid polymer, a N-(3-aminopropyl) methacrylamide hydrochloride polymer, a polyvinylpyrrolidone, a polyethylene oxide polymer, a saccharide, a glycan, a hyaluronic acid polymer, a chondroitin sulfate polymer, a poly(alkylene oxalate) polymer, poly(vinyl alcohol) polymer, an ionene polymer, a caprolactone copolymer, a chitin polymer, an agarose polymer, a cellulosic polymer, a poly(maleic anhydride) polymer and a polysaccharide.

167. (Original) The method of claim 162 wherein the hydrophilic polymer is a naturally occurring hydrophilic polymer.

168. (Original) The method of claim 162 wherein the hydrophilic polymer is a chemically synthesized hydrophilic polymer.

169. (Original) The method of claim 162 wherein the hydrophilic polymer has a molecular weight between about 100,000 and about 2,000,000.

170. (Original) The method of claim 162 wherein the surface comprises a primer.

171. (Original) The method of claim 162 wherein the biomolecule is selected from the group consisting of an anticoagulant agent, an antithrombotic agent, a clotting agent, a platelet agent, a blood agent, an anti-inflammatory, an antibody, an antigen, an immunoglobulin, a defense agent, an enzyme, a hormone, a growth factor, a neurotransmitter, a cytokine, a regulatory agent, a transport agent, a fibrous agent, a viral agent, a protein, a glycoprotein, a globular protein, a structural protein, a membrane protein, a cell attachment protein, a viral protein, a peptide, a glycopeptide, a structural peptide, a membrane peptide, a cell attachment peptide, a proteoglycan, a toxin, an antibiotic agent, antibacterial agent, antimicrobial agent, a polysaccharide, a carbohydrate, a fatty acid, a catalyst, a drug, a vitamin, a DNA segment, a RNA segment, a nucleic acid, a lectin, a dye and a ligand.

172. (Original) The method of claim 162 wherein the biomolecule is a naturally occurring biomolecule.

173. (Original) The method of claim 162 wherein the biomolecule is a chemically synthesized biomolecule.

174-232. (Cancelled)

233. (Original) A coated medical device comprising a catechol moiety disposed on the surface of the medical device and chemically bonded to a hydrophilic polymer.

234. (Original) A coated medical device comprising a hydrophilic polymer comprising a catechol moiety chemically bonded to the surface of the medical device.

235. (Original) A coated medical device comprising a hydrophilic polymer disposed on the surface of the medical device, the hydrophilic polymer comprising a catechol moiety chemically bonded to a biomolecule.

236. (Original) A coated medical device comprising a hydrophilic polymer disposed on the surface of the medical device, a biomolecule comprising a catechol moiety chemically bonded to the hydrophilic polymer.

Please add the following new claims:

237. (New) The medical device of claim 235 wherein the medical device is selected from the group consisting of a blood-contacting medical device, a tissue-contacting medical device, a bodily fluid-contacting medical device, an implantable medical device, an extracorporeal medical device, a blood oxygenator, a blood pump, a blood sensor, tubing for carrying blood, an endoprosthesis medical device, a vascular graft, a stent, a pacemaker lead, a heart valve, temporary intravascular medical device, a catheter and a guide wire.

238. (New) The medical device of claim 235 wherein at least a portion of the surface forms at least one of a tube, a rod, a membrane, a balloon, a bag and a sheet.

239. (New) The medical device of claim 235 wherein the surface comprises at least one of a biocompatible material selected from the group consisting of a metal, a titanium, a titanium alloy, a tin-nickel alloy, a shape memory alloy, an aluminum oxide, a platinum, a platinum alloy, a stainless steel, a MP35N stainless steel, a elgiloy, a stellite, a pyrolytic carbon, a silver carbon, a glassy carbon, a polymer, a polyamide, a polycarbonate, a polyether, a polyester, a polyolefin, a polyethylene, a polypropylene, a polystyrene, a polyurethane, a polyvinylchloride, a polyvinylpyrrolidone, a silicone elastomer, a fluoropolymer, a polyacrylate, a polyisoprene, a polytetrafluoroethylene, a rubber, a ceramic, a hydroxapatite, a human protein, a human tissue, an animal protein, an animal tissue, a bone, a skin, a tooth, a collagen, a laminin, a elastin, a fibrin, a wood, a cellulose, a compressed carbon and a glass.

240. (New) The medical device of claim 235 wherein the hydrophilic polymer is selected from the group consisting of a water-soluble polymer, a water-swelling polymer, a polymer comprising a hydrophilic chemical moiety, a polymer used to reduce friction on a surface, an acrylamide polymer, a methacrylamide polymer, a 2-acrylamido-2-methylpropane sulfonic acid polymer, an acrylic acid polymer, a N-(3-aminopropyl) methacrylamide hydrochloride polymer, a polyvinylpyrrolidone, a polyethylene oxide polymer, a saccharide, a glycan, a hyaluronic acid polymer, a chondroitin sulfate polymer, a poly(alkylene oxalate) polymer, poly(vinyl alcohol) polymer, an ionene polymer, a caprolactone copolymer, a chitin polymer, an agarose polymer, a cellulosic polymer, a poly(maleic anhydride) polymer and a polysaccharide.

241. (New) The medical device of claim 235 wherein the hydrophilic polymer is a naturally occurring hydrophilic polymer.

242. (New) The medical device of claim 235 wherein the hydrophilic polymer is a chemically synthesized hydrophilic polymer.

243. (New) The medical device of claim 235 wherein the hydrophilic polymer has a molecular weight between about 100,000 and about 2,000,000.

244. (New) The medical device of claim 235 wherein the biomolecule comprises a chemical moiety selected from the group consisting of a hydroxyl moiety, a phosphate moiety, a sulfate moiety, a carboxylate moiety, an amide moiety, a guanidino moiety and an amine moiety.

245. (New) The medical device of claim 244 wherein the chemical moiety of the biomolecule is chemically bonded to the catechol moiety of the hydrophilic polymer.

246. (New) The medical device of claim 235 wherein the biomolecule is selected from the group consisting of an anticoagulant agent, an antithrombotic agent, a clotting agent, a platelet agent, a blood agent, an anti-inflammatory, an antibody, an antigen, an immunoglobulin, a defense agent, an enzyme, a hormone, a growth factor, a neurotransmitter, a cytokine, a regulatory agent, a transport agent, a fibrous agent, a viral agent, a protein, a glycoprotein, a globular protein, a structural protein, a membrane protein, a cell attachment protein, a viral protein, a peptide, a glycopeptide, a structural peptide, a membrane peptide, a cell attachment peptide, a proteoglycan, a toxin, an antibiotic agent, antibacterial agent, antimicrobial agent, a polysaccharide, a carbohydrate, a fatty acid, a catalyst, a drug, a vitamin, a DNA segment, a RNA segment, a nucleic acid, a lectin, a dye and a ligand.

247. (New) The medical device of claim 235 wherein the biomolecule is a naturally occurring biomolecule.

248. (New) The medical device of claim 235 wherein the biomolecule is a chemically synthesized biomolecule.

249. (New) The medical device of claim 235 wherein the hydrophilic polymer is chemically bonded to the surface of the medical device.

250. (New) The medical device of claim 235 wherein the hydrophilic polymer is chemically bonded to the surface of the medical device by forming a chemical bond between a chemical moiety of the hydrophilic polymer and a chemical moiety on the medical device surface.

251. (New) The medical device of claim 250 wherein the chemical moiety on the medical device surface is selected from the group consisting of a hydroxyl moiety, a phosphate moiety, a sulfate moiety, a carboxylate moiety, an amide moiety, a guanidino moiety and an amine moiety.

252. (New) The medical device of claim 251 wherein the chemical moiety of the hydrophilic polymer is a catechol moiety.

253. (New) The medical device of claim 250 wherein the chemical moiety of the hydrophilic polymer is selected from the group consisting of a hydroxyl moiety, a phosphate moiety, a sulfate moiety, a carboxylate moiety, an amide moiety, a guanidino moiety and an amine moiety.

254. (New) The medical device of claim 253 wherein the chemical moiety on the medical device surface is a catechol moiety.

255. (New) The medical device of claim 236 wherein the medical device is selected from the group consisting of a blood-contacting medical device, a tissue-contacting medical device, a bodily fluid-contacting medical device, an implantable medical device, an extracorporeal medical device, a blood oxygenator, a blood pump, a blood sensor, tubing for carrying blood, an endoprosthesis medical device, a vascular graft, a stent, a pacemaker lead, a heart valve, temporary intravascular medical device, a catheter and a guide wire.

256. (New) The medical device of claim 236 wherein at least a portion of the surface forms at least one of a tube, a rod, a membrane, a balloon, a bag and a sheet.

257. (New) The medical device of claim 236 wherein the surface comprises at least one of a biocompatible material selected from the group consisting of a metal, a titanium, a titanium alloy, a tin-nickel alloy, a shape memory alloy, an aluminum oxide, a platinum, a platinum alloy, a stainless steel, a MP35N stainless steel, a elgiloy, a stellite, a pyrolytic carbon, a silver carbon, a glassy carbon, a polymer, a polyamide, a polycarbonate, a polyether, a polyester, a polyolefin, a polyethylene, a polypropylene, a polystyrene, a polyurethane, a polyvinylchloride, a polyvinylpyrrolidone, a silicone elastomer, a fluoropolymer, a polyacrylate, a polyisoprene, a polytetrafluoroethylene, a rubber, a ceramic, a hydroxapatite, a human protein, a human tissue, an

animal protein, an animal tissue, a bone, a skin, a tooth, a collagen, a laminin, a elastin, a fibrin, a wood, a cellulose, a compressed carbon and a glass.

258. (New) The medical device of claim 236 wherein the hydrophilic polymer is selected from the group consisting of a water-soluble polymer, a water-swellaable polymer, a polymer comprising a hydrophilic chemical moiety, a polymer used to reduce friction on a surface, an acrylamide polymer, a methacrylamide polymer, a 2-acrylamido-2-methylpropane sulfonic acid polymer, an acrylic acid polymer, a N-(3-aminopropyl) methacrylamide hydrochloride polymer, a polyvinylpyrrolidone, a polyethylene oxide polymer, a saccharide, a glycan, a hyaluronic acid polymer, a chondroitin sulfate polymer, a poly(alkylene oxalate) polymer, poly(vinyl alcohol) polymer, an ionene polymer, a caprolactone copolymer, a chitin polymer, an agarose polymer, a cellulosic polymer, a poly(maleic anhydride) polymer and a polysaccharide.

259. (New) The medical device of claim 236 wherein the hydrophilic polymer is a naturally occurring hydrophilic polymer.

260. (New) The medical device of claim 236 wherein the hydrophilic polymer is a chemically synthesized hydrophilic polymer.

261. (New) The medical device of claim 236 wherein the hydrophilic polymer has a molecular weight between about 100,000 and about 2,000,000.

262. (New) The medical device of claim 236 wherein the hydrophilic polymer comprises a chemical moiety selected from the group consisting of a hydroxyl moiety, a phosphate moiety, a sulfate moiety, a carboxylate moiety, an amide moiety, a guanidino moiety and an amine moiety.

263. (New) The medical device of claim 262 wherein the chemical moiety of the hydrophilic polymer is chemically bonded to the catechol moiety of the biomolecule.

264. (New) The medical device of claim 236 wherein the biomolecule is selected from the group consisting of an anticoagulant agent, an antithrombotic agent, a clotting agent, a platelet agent, a blood agent, an anti-inflammatory, an antibody, an antigen, an immunoglobulin, a

defense agent, an enzyme, a hormone, a growth factor, a neurotransmitter, a cytokine, a regulatory agent, a transport agent, a fibrous agent, a viral agent, a protein, a glycoprotein, a globular protein, a structural protein, a membrane protein, a cell attachment protein, a viral protein, a peptide, a glycopeptide, a structural peptide, a membrane peptide, a cell attachment peptide, a proteoglycan, a toxin, an antibiotic agent, antibacterial agent, antimicrobial agent, a polysaccharide, a carbohydrate, a fatty acid, a catalyst, a drug, a vitamin, a DNA segment, a RNA segment, a nucleic acid, a lectin, a dye and a ligand.

265. (New) The medical device of claim 236 wherein the biomolecule is a naturally occurring biomolecule.

266. (New) The medical device of claim 236 wherein the biomolecule is a chemically synthesized biomolecule.

267. (New) The medical device of claim 236 wherein the hydrophilic polymer is chemically bonded to the surface of the medical device.

268. (New) The medical device of claim 236 wherein the hydrophilic polymer is chemically bonded to the surface of the medical device by forming a chemical bond between a chemical moiety of the hydrophilic polymer and a chemical moiety on the medical device surface.

269. (New) The medical device of claim 268 wherein the chemical moiety on the medical device surface is selected from the group consisting of a hydroxyl moiety, a phosphate moiety, a sulfate moiety, a carboxylate moiety, an amide moiety, a guanidino moiety and an amine moiety.

270. (New) The medical device of claim 269 wherein the chemical moiety of the hydrophilic polymer is a catechol moiety.

271. (New) The medical device of claim 268 wherein the chemical moiety of the hydrophilic polymer is selected from the group consisting of a hydroxyl moiety, a phosphate moiety, a sulfate moiety, a carboxylate moiety, an amide moiety, a guanidino moiety and an amine moiety.

272. (New) The medical device of claim 271 wherein the chemical moiety on the medical device surface is a catechol moiety.